NORTH CAROLINA STATE HEALTH ASSESSMENT

Introduction and Data Tables

A companion report to Healthy North Carolina 2030: A Path Toward Health (NCIOM)

NC DEPARTMENT OF
HEALTH AND
HUMAN SERVICES
Division of Public Health

DECEMBER
2019

NC DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Division of Public Health

This report was prepared by the NC Department of Health and Human Services, Division of Public Health at the State Center for Health Statistics (NCDHHS/DPH). The full text of the *2020 NC State Health Assessment* can be found at: https://schs.dph.ncdhhs.gov/units/ldas/hnc.htm.

North Carolina Division of Public Health, NC DHHS. (2019). *2019 North Carolina State Health Assessment: Introduction and Data Tables - A Companion to Healthy North Carolina 2030.* Raleigh, NC.

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A complete listing of the 2019 North Carolina State Health Assessment's steering committee, task forces and work groups can be found in the companion report *Healthy North Carolina 2030*, pp. 4-15.

This report is published in memory of Eleanor Howell, MS, former Director of the State Center for Health Statistics. Eleanor was our colleague and our friend, and she loved data.

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January 29, 2021

Dear North Carolinians:

The North Carolina Department of Health and Human Services and the Division of Public Health (NCDHHS/DPH) partnered with the North Carolina Institute of Medicine (NCIOM) to lead a robust collaborative process to produce the 2019 NC State Health Assessment (2019 NC SHA) which we proudly present to you herein. The 2019 NC SHA is comprised of two documents:

1) 2019 North Carolina State Health Assessment: Data Tables (2019 NC SHA), and
2) Healthy North Carolina 2030: A Path Toward Health (HNC 2030)

The 2019 NC SHA was used to develop the upcoming 2020 North Carolina State Health Improvement Plan (2020 NC SHIP). We welcome your thoughts and recommendations for achieving a healthier North Carolina. Please provide feedback to Dr. Kathryn Dail, Director, Healthy North Carolina 2030 (kathy.dail@dhhs.nc.gov).

Sincerely,

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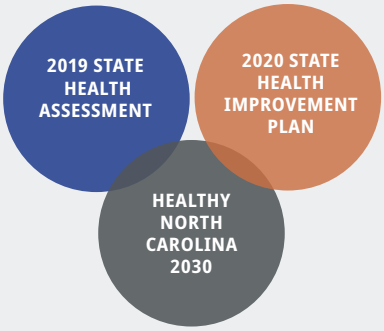
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

"The purpose of the community health assessment is to learn about the community: the health of the population, contributing factors to higher health risks or poorer health outcomes of identified populations, and community resources available to improve the health status. The assessment is the basis for development of the state health improvement plan."

(Public Health Accreditation Board version 1.5 Standard 1.1.)



In 2018, the North Carolina Division of Public Health (DPH) commissioned its State Health Assessment/State Health Improvement Planning process. DPH is the state public health agency and one of 15 Divisions in the North Carolina Department of Health and Human Services (NC DHHS). For over forty years, DPH and its partners have created decennial *Healthy North Carolina (HNC)* objectives to mirror the national *Healthy People (HP)* objectives. The convergence of these two processes will ultimately result in three separate companion reports, as illustrated below. DPH engaged the North Carolina Institute of Medicine (NCIOM) to provide project management and logistical support for its *SHA/HNC2030/SHIP* processes. The work is expected to take two years and be supported in part by funds from The Duke Endowment, the Blue Cross/Blue Shield Foundation of North Carolina, and the Kate B. Reynold's Charitable Trust.

I. 2019 State Health Assessment

The *2019 State Health Assessment (SHA)* sets the foundation for *HNC 2030* and provides an initial look at secondary data used by the *HNC 2030* Task Forces, Work Groups, and Community Listening sessions. The SHA provides a foundation for examining secondary data through a population health framework, an equity lens, and a disparity focus when selecting headline data indicators. The *SHA* endorses the use of cross-sectoral leadership and results-based accountability in its path for creating a decennial plan to strengthen the health of North Carolina communities. The *SHA* supplies much of the secondary data to the *HNC 2030* process.

II. Healthy North Carolina 2030: A Path Toward Health

HNC 2030 provides a detailed description of the population indicator selection process using a population health framework. A steering committee comprised of cross-sectoral leaders advised DPH/NCIOM on project chairs for leadership and task forces, contributors for work groups, and debated methods for community engagement/input into the selection of headline indicators and associated targets.

III. 2020 State Health Improvement Plan

The *2020 State Health Improvement Plan (SHIP)* deploys results-based accountability (RBA) utilizing Clear Impact Scorecard – a transparent, web-based, data-driven system for tracking the collective impact of partners improving North Carolina communities.

The *SHIP* moves the *HNC 2030* indicators from a static report to a dynamic, web-based environment. The process will extended conversations in the community listening sessions about "what works" to additional community members/ organizations.

The *SHIP*

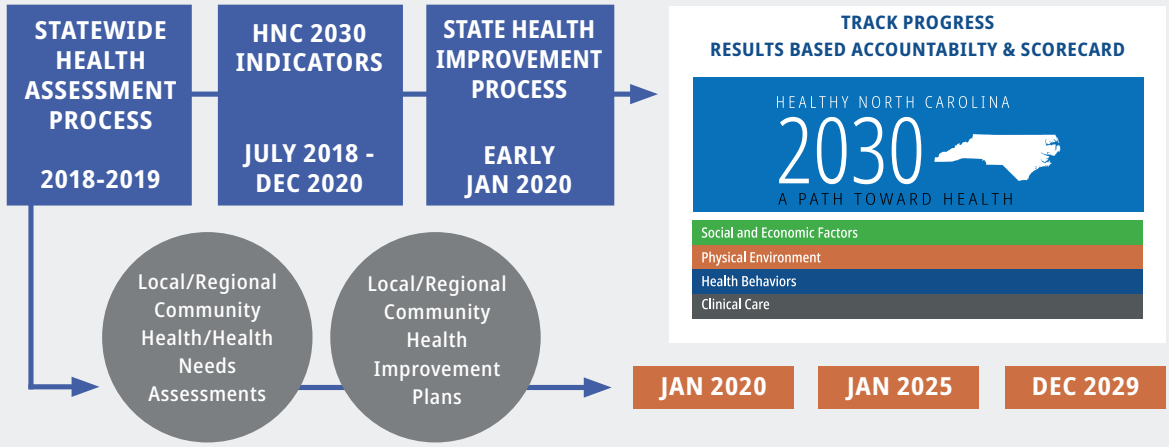
- Clarifies population accountability vs. performance accountability.
- Highlights the roles for state and local health departments and their partners.
- Summarizes the 19 virtual meetings held with community members, agency leads, and projects that are working to impact each of the 21 *HNC 2030* indicators.
- Tracks performance measures in Clear Impact Scorecard for each implemented project in plain language: How much was done? How well was it done? Is anybody any better off?
- Creates a forum for continuous community dialogue about the *HNC 2030* priorities.

TIMELINE

North Carolina integrated the state health assessment/state health improvement process with the decennial process of selecting the *HNC 2030* health indicators **(Figure 1)**. Combining the three processes

- Encourages multilevel, cross-sectoral collaboration
- Strengthens diversity across geographical regions, private/public sector agencies, and gender/race/ethnicity perspectives
- Respects the considerable time obligation of partners
- Facilitates a collective impact through the joint assessment and planning process

Figure 1. Integrated Timeline for the NC SHA/HNC 2030/ NC SHIP Process



STATE HEALTH ASSESSMENT PROCESS

POPULATION HEALTH FRAMEWORK

The *2019 North Carolina State Health Assessment* introduces the County Health Rankings population health model developed by the Robert Wood Johnson Foundation. This framework was chosen because it identifies the primary drivers of health, as well as their proportional contribution to overall health outcomes. The framework will define the second phase of the SHA/SHIP process – creating focus areas for *HNC 2030*. Use of the framework represents a substantial shift to the inclusion of factors outside the usual sphere of public health **(Figure 2)**.

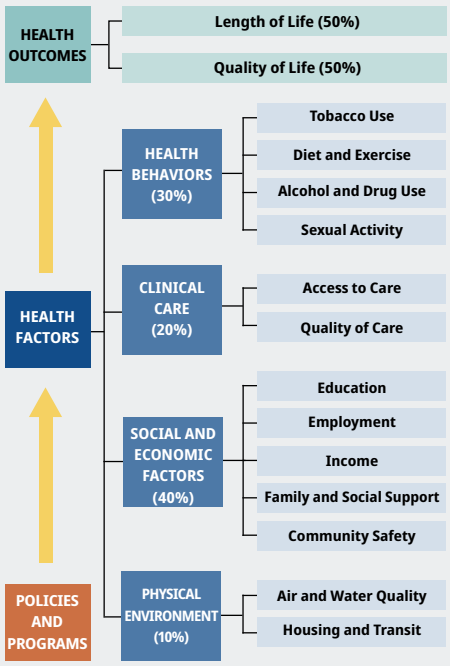
HEALTH EQUITY LENS/DISPARITY FOCUS

Health equity is the opportunity for all people to attain the highest level of personal health regardless of demographic characteristics. Health begins in families and communities and is largely determined by the social and economic contexts (responsible for 40% of the variation in health outcomes) in which we grow up, live, work, and age; the healthy behaviors (30%) that those contexts make easier or harder, clinical care (20%), and our physical environments (10%). These factors are called drivers of health (also known as social determinants of health) and they directly affect health outcomes like development of disease and life expectancy.

Figure 2. Illustration of the Shift from Individual Health Topics to a Population Health Framework

1. Tobacco Use
2. Nutrition and Physical Activity
3. Sexually Transmitted Diseases
4. Unintended Pregnancy
5. Substance Abuse
6. Environmental Risks
7. Injury and Violence Prevention
8. Infectious Disease and Foodborne Illness
9. Mental Health
10. Oral Health
11. Maternal and Infant Health
12. Chronic Disease
13. Social Determinants of Health
14. Cross-cutting Measures

"We will use HNC 2030 to re-orient public health! We shift from a focus on individual health topics to a focus on health equality and overall drivers of health outcomes."



To identify the most vulnerable populations in North Carolina, *the 2019 SHA* reviewed the degree of health equity assessment and analysis in 295 NC local health department (LHD) community health assessments (2007-2017) (Dail, 2018). The healthy equity study variables included:

- Race (African American, Caucasian, Native American)
- Ethnicity (Hispanic, Non-Hispanic)
- Gender (male, female)
- Gender Identity (LGBTQ+)
- Age (elderly, children)
- Disabled (visual, hearing, mobility, developmental)
- Immigrants, Refugees, and Undocumented Persons
- Social Determinants: (poverty, housing, safe housing/ neighborhoods, education, employment, transportation)

The study found a significant association between LHD community health assessments that partnered with an academic institution or participated in a regional approach to the number of health equity variables analyzed ($p < .001$). The study raises concerns about an overall failure to use a framework to guide the assessment process, a dependency on poor quality primary data, and weak analysis and synthesis of secondary data. This study helped to inform the choice for using a population health framework.

The *2019 NC SHA* process begins with a review of secondary data sources to identify known health disparities within the population. Often disparities are not recognized in the whole population but become obvious at the subpopulation level. Health equity issues are more difficult to identify because of the unavailability of data. The *SHA* utilizes both a quantitative and qualitative approach to data collection to identify health equity and health disparity issues **(Figure 3).**

Figure 3. Key Definitions for Health Equity/Health

Health equity is the opportunity for everyone to have good health.

Health inequities are the unfair differences that prevent everyone from the opportunity to have good health.

Health disparities are the measurable differences or gaps seen in one group's health status in relation to another or other group(s).

Social determinants of health are social factors that greatly influence the health and quality of life in neighborhoods and communities.

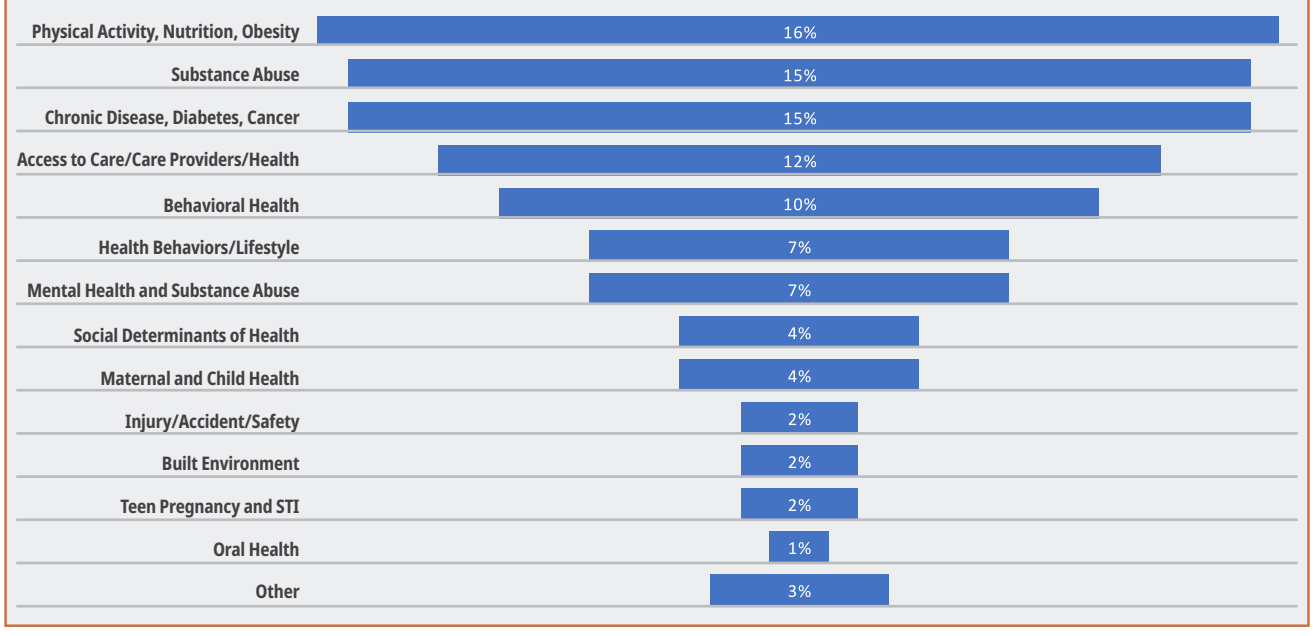
Source: https://www.ncminorityhealth.org/definitions.htm

LOCAL HEALTH DEPARTMENT COMMUNITY HEALTH ASSESSMENT PRIORITIES

North Carolina requires local health departments to provide a comprehensive community health assessment (CHA) at least every four years for each county or health district. The CHA must be a collaborative effort with local partners inclusive of hospitals, businesses, community partners and the local community health coalitions. The assessment must include the collection and analysis of primary data at the county/district level, secondary data from the State Center for Health Statistics (SCHS) and other sources, and an analysis of community resources.

The CHA identifies a list of community health problems based on the assessment. Each identified problem is prioritized and described in the narrative. From the list of priorities, local health departments must develop a community health improvement plan (CHIP) for a minimum of two priorities. The CHIP must be data driven and use results-based accountability to focus on both population and program accountability.

Figure 4. North Carolina Local Health Department Community Health Assessment Priorities, 2015-2019



The CHIP must be aligned with the *Healthy North Carolina 2030* indicators and use best evidence interventions targeting health behaviors, the physical environment, social and economic factors, and/or clinical care. The CHIP is updated at least annually, and the Division of Public Health assists local health departments in monitoring performance.

The work by local health departments and their partners helps to inform the state health assessment. **Figure 4** provides a snapshot of priorities identified in the most recent cycle of local community health assessments. These priorities aligned with the Healthy North Carolina 2020 objectives. Local community health assessments conducted in 2020 will align with *HNC 2030.*

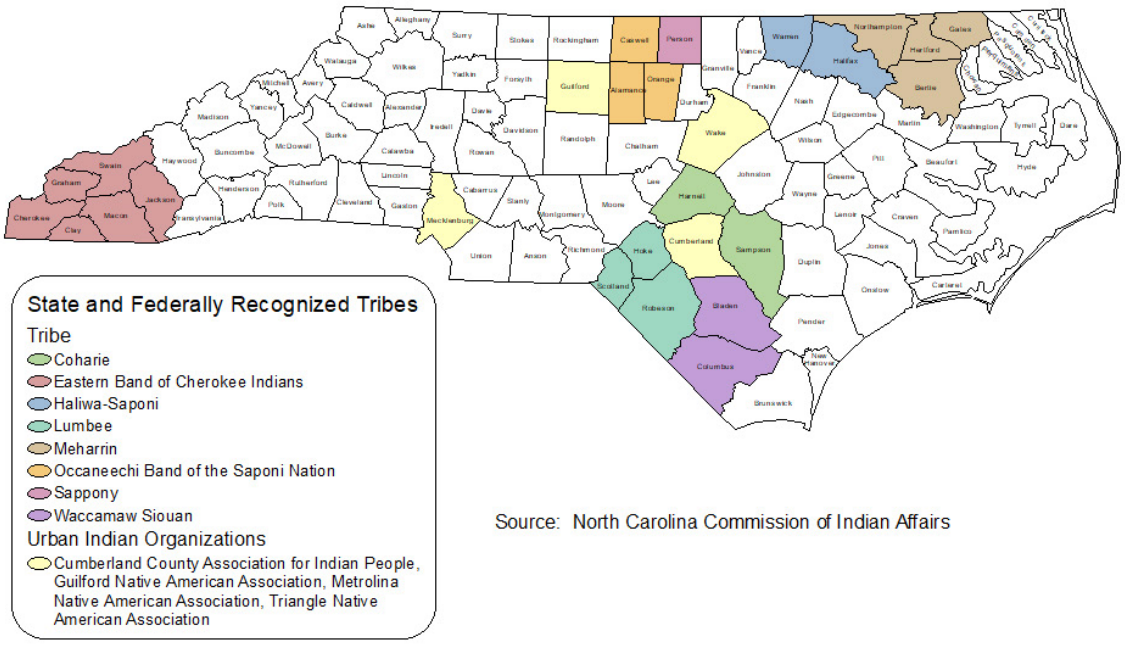
FEDERAL AND STATE TRIBAL COMMUNITIES

North Carolina has eight recognized Native American tribes and the largest indigenous population east of the Mississippi River **(Figure 5)**. The tribes include:

- Eastern Band of Cherokee
- Coharie
- Haliwa-Saponi
- Lumbee
- Meherrin
- Occaneechi Band of the Saponi Nation
- Sappony
- Waccamaw Siouan

The Eastern Band of Cherokee Indians is a sovereign nation of about 14,000 members and the only federally recognized tribe in the state. North Carolina recognized the Lumbee Tribe in 1885, but the tribe has been unsuccessful in its pursuit for federal recognition. New legislation is planned for 2020-2021. Federal recognition is important because it would allow nearly 60,000 members to receive services from the Bureau of Indian Affairs. Additionally, federal recognition opens up economic opportunities for one of the most challenged regions in the state.

Figure 5. North Carolina Tribal and Urban Communities



Source: North Carolina Commission of Indian Affairs

ASSET INVENTORY

The asset inventory identifies resources that can be mobilized to improve population health. Therefore, an inventory of resources begins with North Carolina's most valuable asset - its people. Overcoming complex social, educational, and economic issues requires that all North Carolinians take ownership for the solutions to the problems that weaken our families and communities.

North Carolina's public health leaders believe in the strength of communities to create positive changes. These leaders exemplify the characteristics of servant leaders and servant followers described by Robert Greenleaf in 1977. Servant leadership places an emphasis on collaboration, community, and inclusion in decision-making and promotes respect of self and others. We must begin every inquiry into the health of the community with an examination of structural racism – past and present.

We acknowledge that many partners share a vision of healthier communities made stronger by addressing the root causes of health inequities and health disparities. Several key partners that can help mobilize resources for a strong state health improvement plan are included in our asset inventory.

FOUNDATION FOR HEALTH LEADERSHIP AND INNOVATION (FHLI)

The Foundation for Health Leadership and Innovation is a nonprofit organization that develops and supports innovative, community-driven partnerships that build a healthier North Carolina through collaboration and respect. FHLI will provide critical infrastructure and support for implementing a web-based data platform for monitoring progress of the *Healthy North Carolina 2030* indicators. The Foundation currently is home to Health ENC, a regional collaboration of 33 counties in eastern North Carolina that partner to create joint community health needs assessments among health departments, health care systems, and their partners.

NCCARE360

North Carolina Department of Health and Human Services and its partner, the Foundation for Health Leadership and Innovation, maintain a robust statewide resource directory powered by NC 2-1-1. Resources are concentrated for housing, employment, food assistance, interpersonal violence, transportation, No Wrong Door, and income support. NCCare360 will be a new source of data for future state and local community health assessments and improvement plans.

NCCARE360

NORTH CAROLINA AREA HEALTH EDUCATION CENTERS PROGRAM (NC AHEC)

The NC AHEC Centers Program "provides and supports educational activities and services with a focus on primary care in rural communities and those with less access to resources to recruit, train, and retain the workforce needed to create a healthy North Carolina." The program began in 1972 but has grown to nine regional centers coordinated by a statewide office in Greensboro. The continuing professional development programs are important resources that provide public health professionals with the training and continuing education necessary to stay abreast of new research, emerging technologies, and the latest innovations. NC AHEC will be a major partner in the state health improvement planning process in 2020.

NORTH CAROLINA ASSOCIATION OF LOCAL HEALTH DIRECTORS (NCALHD)

The mission of the North Carolina Association of Local Health Directors is to "promote health, prevent disease, protect the environment in order to ensure the public's health in North Carolina through leadership, vision, advocacy, and commitment to the principles of public health practice in our local communities and throughout the state." The Association remains one of the strongest advocates for essential public health services including community health assessment. Health directors and their staff create the environment for community engagement and collaboration. They assure that community coalitions have skilled facilitators to strategically tackle community priorities.

NORTH CAROLINA HEALTHCARE FOUNDATION (NCHF)

The North Carolina Healthcare Foundation "supports the North Carolina Healthcare Association's work in quality improvement, patient safety, rural health care, community health, access, and innovation." The Foundation assists by providing recommendations for engaging health care systems in community health improvement planning. The Foundation will play a key role in implementing results-based accountability by strengthening state and local partnerships between community coalitions.

NORTH CAROLINA INSTITUTE FOR PUBLIC HEALTH (NCIPH)

The mission of NCIPH is to "bridge knowledge and expertise at UNC Gillings by facilitating collaborative solutions to population health challenges in North Carolina and beyond." They provide technical assistance to public health and health care partners to improve the health of communities in North Carolina. The NCIPH has expertise in

- population health improvement
- community health assessment and improvement planning
- communications and messaging
- data collection, analysis and interpretation
- GIS mapping, social determinants of health, and
- leadership/management development.

NORTH CAROLINA INSTITUTE OF MEDICINE (NCIOM)

The North Carolina Institute of Medicine is an independent organization focused on improving the health and well-being of North Carolinians by "identifying solutions to the health issues facing our state, building consensus toward evidence-based solutions, and informing health policy at the state and local level." NCIOM partnered with the Division of Public Health in 2020 to create the *Healthy North Carolina 2020* objectives and is currently working with the Division to identify the new *Healthy North Carolina 2030* indicators. NCIOM will be instrumental in developing the *2020 NC State Health Improvement Plan.*

NORTH CAROLINA MEDICAL SOCIETY (NCMS)

The mission of the North Carolina Medical Society is to "provide leadership in medicine by uniting, serving, and representing physicians and their health care teams to enhance the health of North Carolinians." With over 10,000 members, the Society keeps its membership informed about key public health initiatives like *Healthy North Carolina 2030*. This awareness encourages participation of physicians in community interventions that impact the patients in their care and helps physicians engage in healthier policy initiatives at the state level.

NORTH CAROLINA PUBLIC HEALTH ASSOCIATION (NCPHA)

The North Carolina Public Health Association is an association of individuals and organizations working to improve the public's health through "political advocacy, public awareness, professional development, and the interface between research and practice." The Association is the sponsor of the Public Health Leader's Conference – the forum for introducing the decennial *Healthy North Carolina* plans and related continuing education activities at the fall and spring conferences. In January 2020, the Public Health Leader's conference will feature its first ever *HNC 2030* Data Walk that allows the public to have discussions with key informants about each of the indicators **(Appendix C)**.

FEDERAL AND STATE COMPANION DOCUMENTS

North Carolina considers federal and state companion plans as assets for state health improvement. These include the upcoming release of the US Healthy People 2030 plan and multiple North Carolina Plans:

- Healthy Opportunities Framework **(Figure 6)**
- NC Early Childhood Action Plan **(Figure 7)**
- NC Perinatal Health Strategic Plan **(Figure 8)**
- NC Medicaid Managed Care Quality Plan **(Figure 9)**
- NC Opiod Action Plan **(Figure 10)**

HEALTHY PEOPLE INITIATIVES (HEALTHY PEOPLE 2030)

Since 1980, the Healthy People initiative has set measurable objectives to improve the health and well-being of people nationwide. At the beginning of every decade, the federal government launches a new iteration of the initiative that addresses the latest public health priorities and challenges. Healthy People 2030 is the fifth iteration. North Carolina participates in the development of the Healthy People initiatives and derives much of the *Healthy North Carolina* focus from the framework used at the federal level. The difference is that *Healthy North Carolina* is precisely organized to address state priorities with a reasonable opportunity to make improvements, monitor performance, and see results over the decennial period.

HEALTHY OPPORTUNITIES FRAMEWORK

All North Carolinians deserve the opportunity for good health. Access to high-quality medical care is critical, but research shows up to 80 percent of a person's health is determined by social and environmental factors and the behaviors that emerge as a result. Through state and local partnerships, DHHS is creating a multi-faceted strategy **(Figure 6)** to unite our communities and health care system to effectively deliver health, not just healthcare. Elements of this strategy include *Standardized Screening*, developed by a multi-disciplinary Technical Advisory Group to identify needs relating to food, housing, transportation, and interpersonal violence. Field testing of the screening questions in safety net clinical settings and telephonic care management showed high levels of acceptability, understandability, and comfort with the screening questions. The highest unmet need identified was food security with 40% of respondents reporting they experienced a period of food insecurity in the past 12 months.

Source: Annual Report to the North Carolina Medical Society (October 2019)

Figure 6. North Carolina Healthy Opportunities Framework

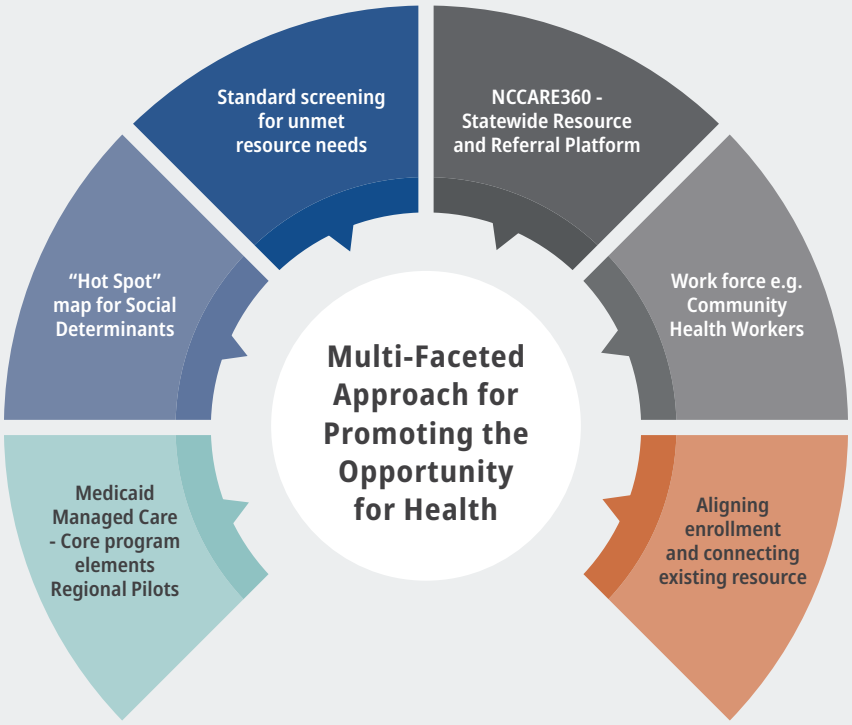
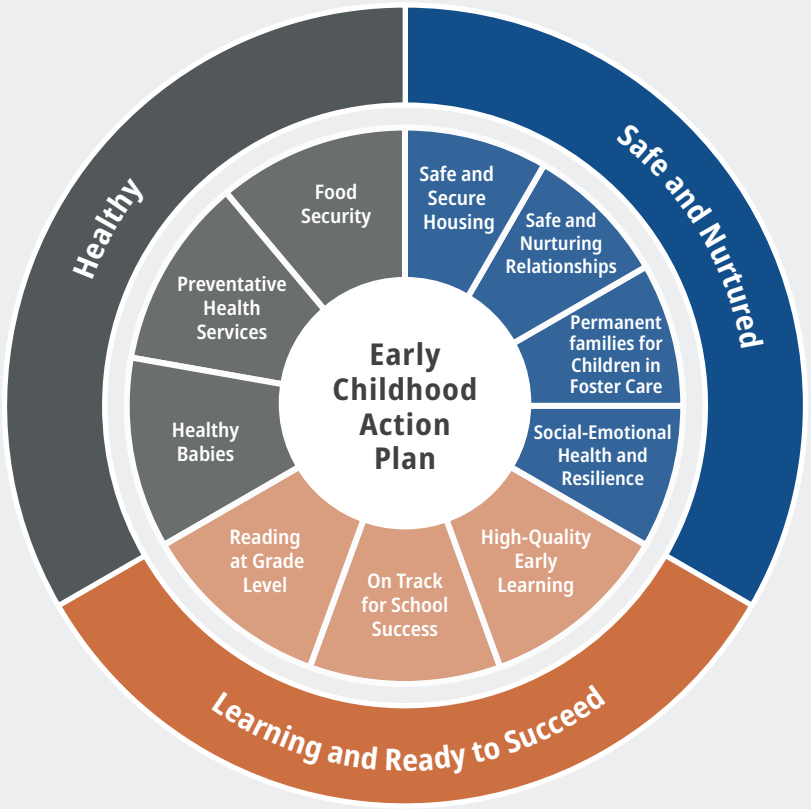


Figure 7. North Carolina Early Childhood Action Plan



EARLY CHILDHOOD ACTION PLAN

A key priority for DHHS is a focus on early childhood and the goal that all North Carolina children get a healthy start and develop to their fullest potential in safe and nurturing families, schools, and communities. To move this vision to action, DHHS spearheaded the development of a statewide Early Childhood Action Plan **(Figure 7)** in February 2019. Following an executive order by Governor Roy Cooper, the plan creates a cohesive vision, sets benchmarks for impact by the year 2025 and establishes shared stakeholder accountability to achieve ten statewide goals for early childhood.

By 2025, DHHS envisions that all North Carolina's young children from birth through age eight will be:

- Healthy – Children are healthy at birth and thrive in environments that support their optimal health and well-being.
- Safe and Nurtured – Children grow confident, resilient, and independent in safe, stable, and nurturing families, schools, and communities.
- Learning and Ready to Succeed – Children experience the conditions they need to build strong brain architecture and skills that support their success in school and in life.

NORTH CAROLINA PERINATAL HEALTH STRATEGIC ACTION PLAN

The North Carolina Perinatal Health Strategic Plan was developed to include a focus on infant mortality, maternal health, maternal morbidity, and the health of men and women of childbearing age. In response to our state's perinatal health outcomes, the framework includes a focus on health equity and social determinants of health (SDOH). This collaborative 12-point plan is divided into the following three goals:

- Improving Health Care for Women and Men
- Strengthening Families and Communities
- Addressing Social and Economic Inequities

Figure 8 North Carolina Perinatal Health Strategic Plan, 2016-2020

North Carolina's Perinatal Health Strategic Plan: 2016-2020

This plan is designed to address infant mortality, maternal health, maternal morbidity, and the health of men and women of childbearing age.

THE PLAN:

The framework selected by the Perinatal Health Strategic Planning Committee was adapted from the "12-Point Plan to Close the Black-White Gap in Birth Outcomes: A Life-Course Approach" developed by Lu, Kotelchuck, Hogan, Jones, Wright, and Halfon (http://www.unnaturalcauses.org/assets/uploads/file/ClosingTheGapBWBirthOutcome.pdf). Upon review of the framework, it was evident that these strategies were appropriate for all populations, not just African American families. This adapted framework was used to develop the strategies of this Plan. The action steps were developed by over 125 maternal and child health experts from across the state.

THE 12-POINT PLAN INCLUDES:

Improve health care for women and men:

1. Provide interconception care to women with prior adverse pregnancy outcomes
2. Increase access to preconception care
3. Improve the quality of prenatal care
4. Expand healthcare access over the life course

Strengthen families and communities:

5. Strengthen father involvement in families
6. Enhance coordination and integration of family support services
7. Support coordination and cooperation to promote reproductive health within communities
8. Invest in community building and urban renewal

Address social and economic inequities:

9. Close the education gap
10. Reduce poverty among families
11. Support working mothers and families
12. Undo racism

A detailed list of the planned strategies and action steps of the perinatal health strategic plan are on the next few pages.

MEDICAID TRANSFORMATION

DHHS is transitioning its Medicaid and NC Health Choice programs from a predominantly fee-for-service delivery system to managed care (Session Law 2015-245, as amended) - a move which represents the most significant change to either program since their inception. Under Medicaid Managed Care, elements to improve population health and address the full factors that influence health include:

- Statewide quality plan **(Figure 9)** that includes population and public health measures such as tobacco use, low birth weight, vaccination rates, and screening for and addressing un-met health related social needs.
- Care Management that will utilize a multi-disciplinary team including nurses, social workers, housing specialists, and legal specialists; will have competencies in trauma-informed care; and will consistently screen for and address un-met health related social needs.
- Consistent screening for and addressing of social needs care.
- Advanced payment models and other financial levers that will provide flexibility to pay for whole person health.
- Healthy Opportunities pilots, which present an unprecedented opportunity to test the impact of providing select, evidence-based non-medical interventions to higher-risk Medicaid Managed Care enrollees. Through October 2024, the pilots will allow up to $650 million in federal and state Medicaid funding to provide pilot services related to housing, food, transportation and interpersonal safety and toxic stress that directly impact the health outcomes and health care costs of enrollees in two to four geographic areas of the state. After rigorous evaluation, DHHS will seek to systematically integrate pilot and services shown to be effective into North Carolina Medicaid Managed Care on an ongoing basis statewide.

Figure 9. North Carolina Medicaid Managed Care Quality Plan

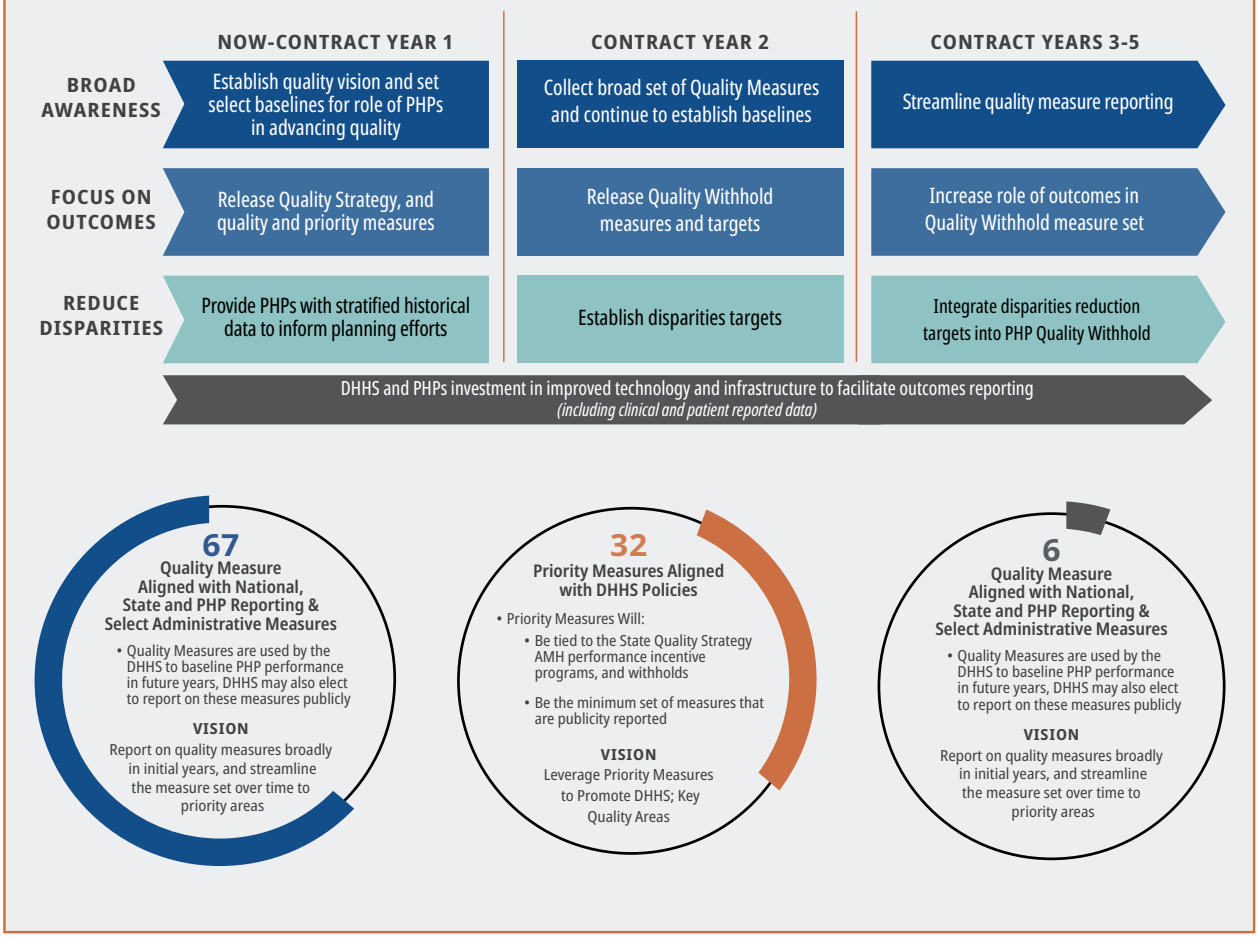


Figure 10. North Carolina Opioid Action Plan 2.0

OPIOID ACTION PLAN

The Opioid Epidemic is both a national and NC crisis. The Opioid Epidemic has contributed to the worsening of our unintentional poisoning mortality rate in Healthy North Carolina 2020. Following the 2017 release of the first Opioid Action Plan, the Opioid Action Plan 2.0 **(Figure 9)** places an even greater emphasis on upstream factors like early childhood and non-medical drivers of health. It was developed with considerable input from community partners from across the state and included a multisector approach to addressing the crisis. Since its launch, action steps taken include, but are not limited to:

- Expended $54 million in federal funding to treat 12,000+ people
- Increased Syringe Exchange Programs to serve over 5,000 people
- Trained 3,000+ providers on opioid prescribing and pain treatment
- Funded peer support specialists in emergency departments
- Launched a medical residency waiver training project
- Improved the Controlled Substance Reporting System
- Convened a Payers Council to align benefits coverage
- Funded 34 local organizations to implement action plan strategies
- Developed healthcare worker diversion prevention protocols
- Established an NC Opioid Research Consortium and Agenda

POPULATION DEMOGRAPHIC

The United States Census Bureau estimated the population of North Carolina to be 10,155,624 in 2018. **Figure 11** shows population estimates by county. The state is comprised of 100 counties the majority having a population less than 50,000. The three most populated counties are Guilford, Mecklenburg, and Wake where population ranges from 500,000 to one million. **Figure 12** further characterizes the age and gender distribution of North Carolina. The percentage of women (51.3%) is slightly greater than the percentage of men (48.7%).

According to the N.C. Department of Commerce (2019), from 2017-2018, North Carolina's population grew 1.1%, adding about 113,000 people. The state grew faster than both the nation (0.6%) and the rest of the South (0.9%). Since 2010, the state's population growth has outperformed the nation, having grown 8.5% compared to the nation's 5.8%.

The composition of the state's population growth has been changing over time. In 2018, net migration accounted for more than three of every four new residents to the state, while natural growth declined to the lowest level since 1970. In contrast, net migration accounted for 48% of the nation's new residents in 2018. The aging of the state's population as well as lower fertility rates have contributed to this gradual decline in natural increase. In 2010, 13% of the state's population was 65 or older. By 2018, the 65+ age group had increased to 16% of the total population, matching the U.S. proportion. This age group is projected to reach 19% of the state's population by 2028 (N.C. DOC, 2019, p. 4).

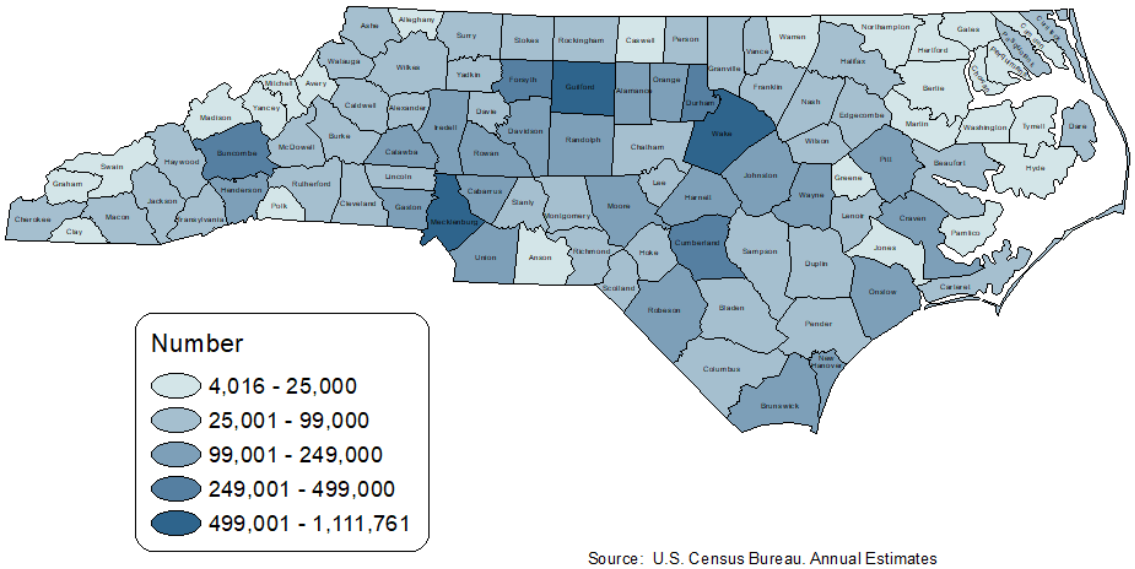
RURAL/URBAN

The lack of a common definition of rural vs urban complicates discussions about community assets, health disparities, and equity issues. Multiple federal systems exist using different levels of geography (e.g., county versus census tract). The U.S. Census Bureau defines rural as what is not urban—that is, after defining individual urban areas, rural is what is left (Ratcliffe, Burd, Holder, & Fields, 2016). As of 2010, 34% of the state's residents lived in rural Census tracts, giving North Carolina the second largest rural population in the country.

The Office of Management and Budget (OMB) designates counties as metropolitan, micropolitan, or neither. A metro area contains a core urban area of 50,000 or more population, and a micro area contains an urban core of at least 10,000 (but less than 50,000) population. All counties that are not part of a Metropolitan Statistical Area (MSA) are considered rural (USDHHS-HRSA, 2019).

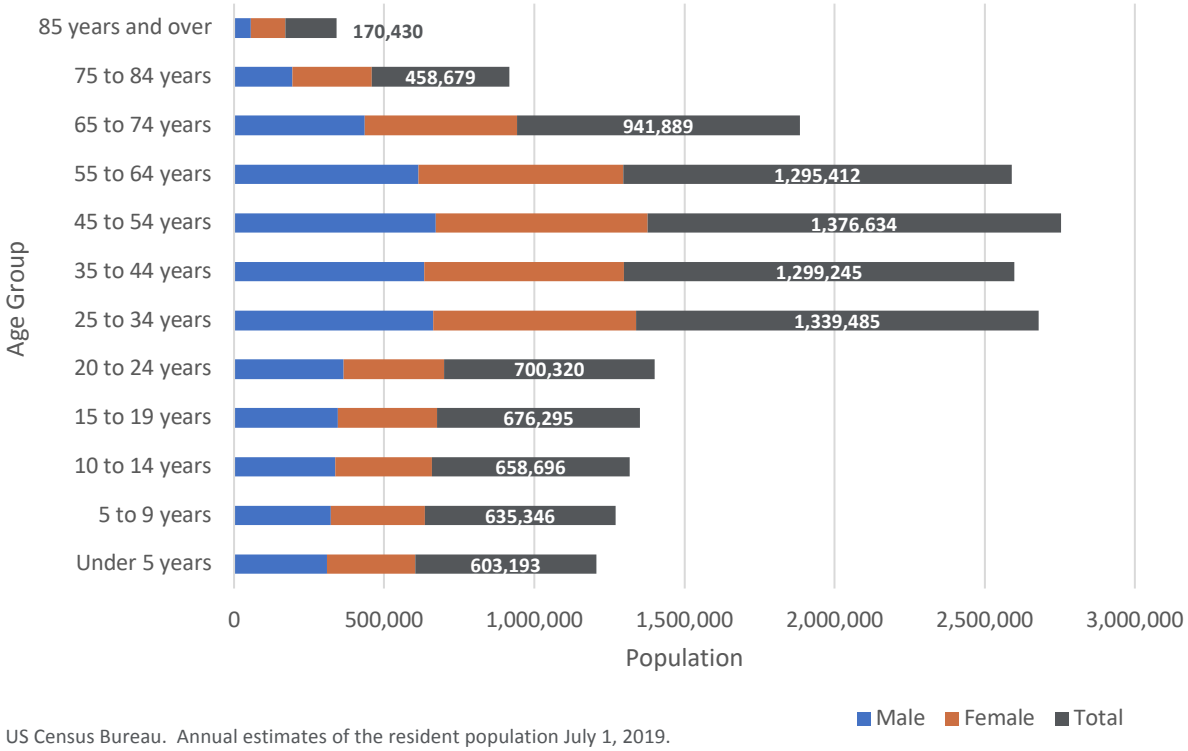
Figure 13 applies a multi-level system to distinguish metropolitan, micropolitan, and non-metropolitan counties in North Carolina.

Figure 11. North Carolina Estimated Population by County, 2019



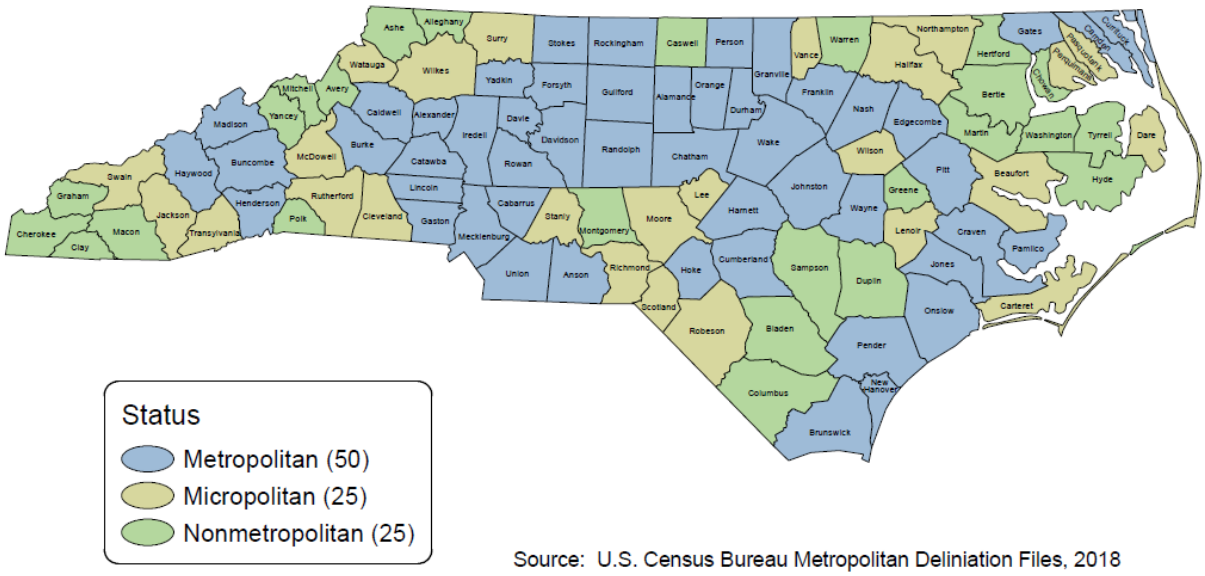
Source: U.S. Census Bureau. Annual Estimates of the Resident Population: July 1, 2019

Figure 12. North Carolina Population by Age and Sex, 2019



US Census Bureau. Annual estimates of the resident population July 1, 2019.

Figure 13. North Carolina Metropolitan/Micropolitan Status by County, 2018



Source: U.S. Census Bureau Metropolitan Deliniation Files, 2018

https://www.shepscenter.unc.edu/programs-projects/rural-health/cartographic-archives/

Table 1. North Carolina Resident Population Health Data by Race and Ethnicity, 2018

2018 Population Estimate	Total	White, Non-Hispanic	African American, Non-Hispanic	American Indian, Non-Hispanic	Other Races, Non-Hispanic	Hispanic/ Latino
NUMBER	10,383,620	6,623,807	2,296, 309	123,402	342,753	997,349
PERCENTAGE	100%	63.8%	22.1%	1.2%	3.3%	9.6%

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/schs/pdf/NCPopHealthDatabyRaceEthOct2019v2.pdf

Table 2. North Carolina Life Expectancy at Birth, 2018

Geographic Area	Total Years	Sex		Race	
		Male	Female	White	African American
NORTH CAROLINA	77.0	74.1	79.8	77.9	74.5

Source: State Center for Health Statistics- County Health Data Book
https://schs.dph.ncdhhs.gov/data/databook/CD8A%20State%20and%20County%20Life%20Expectancies%20at%20birth.html

Table 3. Leading Causes of Death in North Carolina, 2018

Rank	Cause	Number	Percentage
1	Cancer	19693	20.9
2	Diseases of heart	19254	20.5
3	Chronic lower respiratory diseases	5367	5.7
4	Cerebrovascular diseases	5072	5.4
5	Alzheimer's disease	4502	4.8
6	All other unintentional injuries	4478	4.8
7	Diabetes mellitus	3021	3.2
8	Influenza and pneumonia	2067	2.2
9	Nephritis, nephrotic syndrome and nephrosis	1936	2.1
10	Motor vehicle accidents	1591	1.7
	All other causes (residual)	27024	28.7

Source: State Center for Health Statistics, North Carolina. https://schs.dph.ncdhhs.gov/data/vital/lcd/2018/pdf/TblsA-F_rev4.pdf

Table 4. North Carolina Infant Death Rates (per 1,000 live births), 2019

Total Infant Deaths	Total Rate	White, Non-Hispanic Rate	African American, Non-Hispanic Rate	American Indian, Non-Hispanic Rate	Other Races, Non-Hispanic Rate	Hispanic/ Latino Rate
810	6.8	4.7	12.5	12.0	3.8	5.6

Source: NC DHHS/State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/vital/ims/2019/2019rpt.html

Table 5. North Carolina Death Rate per 100,000 for Children Ages 1 to 9 Years, 2015-2019

YEAR	2015	2016	2017	2018	2019
RATE	20.3	18.9	17.6	17.2	19.3
Number of deaths occurring to children ages 1 to 9 years	229	213	198	193	216
Estimated number of children ages 1 to 9 years in the state for the reporting year per the NCHS Bridged Population Data	1,127,226	1,125,637	1,122,462	1,119,672	1,119,745

Source: NC DHHS / Women's & Children's Health Section & State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/mch/

Table 6. North Carolina Infant Mortality Racial Disparities Between White Non-Hispanics & African-American Non-Hispanics, 2015-2019

Non-Hispanic White Infant Deaths	Non-Hispanic White Rate	Non-Hispanic African American Deaths	Non-Hispanic African American Rate	Disparity Ratio
1,671	5.1*	1,814	12.6*	2.47

** = per 1,000 live births*

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/vital/ims/2019/table3b.html

Table 7. North Carolina Unintentional Poisoning Mortality Rate per 100,000 Resident Deaths, 2014-2018

North Carolina	9,166	18.5

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/databook/CD11C%20Unintentinal%20Poisoning%20deaths%20&%20rates.html

Table 8. North Carolina Resident Deaths by Suicide, 2018

Geographical Area	Number of Deaths 2018	Death Rate* 2018	Number of Deaths 2014-2018	Death Rate* 2014-2018	Age-Adjusted Death Rate* 2014-2018
North Carolina	1,499	14.4	7,152	14.1	13.5

** = Suicide deaths per 100,000*

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/vital/lcd/2018/suicide.html

EMERGING PUBLIC HEALTH ISSUES

North Carolina is dealing with several emerging public health issues. Chief among those issues are rising youth e-cigarette use, ensuring early identification of diabetes, addressing environmental contaminants, promoting childhood immunizations, ending the HIV epidemic, and ensuring the health of citizens post disasters (such as hurricanes).

ADDRESSING THE E-CIGARETTE EPIDEMIC AMONG YOUTH

After nearly two decades of success in lowering NC youth cigarette smoking rates to historic lows, progress is eroding due to an epidemic of e-cigarette use among youth. Most e-cigarettes contain nicotine, which is highly addictive and harmful to the developing brain. E-cigarette aerosol contains harmful substances, including nicotine, cancer-causing chemicals, volatile organic compounds, ultrafine particles, and flavorings that have been linked to lung disease and heavy metals.

Currently the Centers for Disease Control and Prevention (CDC) reports that the most popular e-cigarette among young people is JUUL, which is available in many flavors, is shaped like a USB flash drive, and contains as much nicotine as a pack of cigarettes. DPH is working aggressively across the state to effectively protect young people from all forms of tobacco product use, including e-cigarettes.

SCREEN, TEST, AND REFER NORTH CAROLINIANS TO HELP PREVENT DIABETES

Diabetes rates among adults in NC have not improved in recent years and new strategies need to be employed. DPH is now hosting diabetesfreenc.com, a portal for CDC-recognized Diabetes Prevention Programs (DPPs) throughout North Carolina. DPPs are evidence-based year-long programs led by a trained lifestyle coach that provide a group learning environment. The lifestyle coach helps participants develop strategies for healthy eating and physical activity and connects participants with others working on similar goals to prevent type 2 diabetes. DPPs are offered to North Carolinians in both in-person and online formats with various start dates and times.

In conjunction with DPPs, a new service is now being offered by DPH, called the DPP Navigator. DPP Navigators are available to locate DPPs to coordinate enrollment for participants throughout the state. DPP Navigators also receive and coordinate referrals from health care providers, practice referral coordinators, and community-based organizations. DPP Navigators provide bi-directional feedback to referring providers and organizations to include participant enrollment and program completion status.

DHHS also sponsors, through the Office of Minority Health and Health Disparities, the Minority Diabetes Prevention Program, which focuses on preventing prediabetes in our state's minority populations.

EMERGING CONTAMINANTS

The recent identification of the chemical GenX in the lower Cape Fear River has highlighted a growing awareness of emerging contaminants in our environment. According to the U.S. Environmental Protection Agency, an "emerging contaminant" is a chemical or material that is characterized by a perceived, potential, or real threat to human health or the environment or by a lack of published health standards. Per- and polyfluoroalkyl substances (PFAS) are a family of human-made chemicals that are found in a wide range of products.

DPH's actions in response to detection of PFAS in our environment have included:

- Deriving a North Carolina provisional drinking water health goal for GenX based on the available toxicology literature.
- Reviewing cancer and birth defect incidence rates to determine whether areas in the lower Cape Fear region differ from the state rate.
- Providing outreach to the affected communities, including developing factsheets, participating in community meetings, and providing individual consultations.
- Completing a small investigation with CDC to look for PFAS in blood and urine from 30 residents who live near a PFAS manufacturing plant.
- Working with researchers, other state agencies, and local health departments to address residents' concerns and reduce exposure to these harmful compounds.

IMMUNIZATIONS AND MEASLES

Overall vaccination rates among children entering kindergarten in North Carolina remain high (97%) and, while there has been some fluctuation over the past 10 years, complete immunization rates for children 19-35 months has remained approximately 70%. There are, however, certain local areas in the state with lower vaccination rates. These areas and their lower immunization rates are being followed closely as the threat of vaccine preventable diseases is present.

No cases of measles have been identified in North Carolina during the first half of 2019. The last measles cases reported in North Carolina occurred in 2018 and were the result of an unvaccinated traveler returning from Europe, who spread the disease to other members of the household.

ENDING THE HIV EPIDEMIC

Work on an Ending the Epidemic plan for North Carolina ("EtE North Carolina") began in 2018. In January 2019, the federal government announced a "getting to zero" plan to eliminate HIV across the United States by 2030 with a focus on selected jurisdictions. Mecklenburg County was the only jurisdiction selected in North Carolina.
EtE North Carolina is an initiative guided by a diverse steering committee from across the state. In June 2019, the DPH, in partnership with the North Carolina AIDS Action Network (NCAAN), began convening meetings across the state to seek input from people living with HIV, those at risk, providers, local public health, and concerned residents. These meetings are providing insight into the best strategies for reducing HIV transmission and linking people to care and viral suppression, with emphasis on interventions that will fit diverse communities and address stigma and social determinants of health. Implementation of EtE North Carolina is anticipated to begin by 2020.

PUBLIC HEALTH PREPAREDNESS – DISASTER RESPONSE

The Public Health Preparedness and Response program is an important component of NC's statewide emergency and disaster response activities. Hurricane Florence's devastating impact on North Carolina necessitated a prolonged and coordinated response engaging all areas of public health along with a wide network of community partners to help ensure the public's health and safety before, during, and after the storm.

CHILDHOOD LEAD EXPOSURE

The North Carolina Childhood Lead Poisoning Prevention Program (CLPPP) coordinates clinical and environmental services to eliminate childhood lead poisoning. Blood lead testing is recommended for all NC children and required for Medicaid children at ages 1 and 2 years. In 2017, the testing rate among all NC children at those ages was 54.9%, and among Medicaid children at those ages was 76.7%. CLPPP continues to work to increase these testing rates. The percent of NC children ages 1-2 years old with initial elevated blood lead levels (≥5 micrograms/deciliter) decreased to 3.1% during 2010-2014.

CLIMATE CHANGE

By mid-century, North Carolina is expected to experience temperatures above 95°F approximately 20 to 40 days per year in most of the state, compared with about 10 days per year today. The most vulnerable residents – children, older adults, those living with existing medical conditions, low-income earners and individuals working outdoors will be most at risk. Increases in earth-warming air pollutants (e.g., CO2), coupled with warmer temperatures, aggravate asthma and other respiratory conditions.

Table 9. North Carolina Projected New Cancer Cases and Deaths for Selected Sites, 2019

	Projected New Cases				Projected Deaths			
	Lung/ Bronchus	Female Breast	Prostate	Colon/ Rectum	Lung/ Bronchus	Female Breast	Prostate	Colon/ Rectum
NORTH CAROLINA	9,251	10,946	7,438	4,752	6,143	1,467	1,026	1,714

Source: State Center for Health Statistics/Central Cancer Registry https://schs.dph.ncdhhs.gov/schs/CCR/proj19site.pdf

SOCIAL AND ECONOMIC FACTORS IMPACTING HEALTH

SOCIAL FACTORS

Family Unit

Table 10. North Carolina Marital Status for People Aged 15 Years and Older, 2018

	Married	Never Married	Widowed	Divorced	Separated
North Carolina	48.4%	32.1%	6.2 %	10.8 %	2.6 %

Source: US Census Bureau ACS, 2018. 1-year estimates 15+ https://data.census.gov/cedsci/table?q=marital%20status&t=Marital%20Status%20and%20Marital%20History&g=0400000US37&tid=ACSST1Y2018.S1201&moe=false&hidePreview=true

Table 11. North Carolina Marital Status by Race/Ethnicity for People Aged 15 Years and Older, 2018

	Married	Never Married	Widowed	Divorced	Separated
White	53.9%	26.5%	6.5%	11%	2.1%
Black or African American	30.6%	47%	6.5%	11.8%	4.1%
American Indian and Alaska Native	40.9%	38.6%	5.8%	10.7%	3.9%
Asian	63.5%	27.6%	3.5%	4.4%	1%
Native Hawaiian and Other Pacific Islander	55.2%	35.7%	2.2%	5.9%	1%
Some Other Race	45.3%	45%	1.7%	4.4%	3.6%
Two or more races	31.1%	54.4%	3%	8.6%	3%
Hispanic or Latino origin (of any race)	45.5%	42.7%	2.5%	5.7%	3.7%
White alone, not Hispanic or Latino	54.3%	25.5%	6.8%	11.4%	2%

Source: US Census Bureau ACS, 2018. 1-year estimates 15+ https://data.census.gov/cedsci/table?q=Divorce&t=Marital%20Status%20and%20Marital%20History&g=0400000US37&tid=ACSST1Y2018.S1201&moe=false&hidePreview=false

Pregnancy and Fertility

Table 12. North Carolina Resident Pregnancy and Fertility Rates, 2018

	Total	White Non-Hispanic	African American Non-Hispanic	American Indian Non-Hispanic	Other Non-Hispanic	Hispanic
Pregnancy Rate *The number of pregnancies per 1,000 women of reproductive age (15 to 44)*	70.1	60.5	78.6	71.6	72.9	95.1
Fertility Rate *The number of live births per 1,000 women of reproductive age (15 to 44)*	58.4	54	57.2	61.3	63.8	82.1

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/vital/pregnancies/2018/rates.pdf

Extended Family

Table 13. Grandparents living with own grandchildren under 18 years – North Carolina, 2018

	In the labor force	Speak other language	With any disability	**Total**
North Carolina	48.3%	14.8 %	27.2 %	**227,877**

Source: US Census Bureau ACS 1-Year estimates, 2018 https://data.census.gov/cedsci/table?q=Grandparents&g=0400000US37&tid=ACSST1Y2018.S1002&hidePreview=false

Education

Table 14. Educational Attainment Among Adults – North Carolina, 2018

	Did Not Graduate High School	High School Graduate (Includes Equivalency)	Bachelor's degree	American Indian, Non-Hispanic Rate	Other Races, Non-Hispanic Rate	Master's or Graduate Degree
North Carolina	7.5%	25.4%	21.1%	9.9%	20.5%	11.4%
USA	6.7%	26.9%	20.3%	8.6%	20.0%	12.6%

Source: US Census Bureau, 2018 ACS 1-Year Estimates 25+ https://data.census.gov/cedsci/table?q=Educational%20Attainment%20Among%20Adults&t=Educational%20Attainment&g=0400000US37&y=2018&tid=ACSST1Y2018.S1501&moe=false&hidePreview=false

Table 15. Fourth Grade Reading Achievement Levels in North Carolina, 2011-2019

Achievement Level	2011	2013	2015	2017	2019
Below Basic	32%	31%	27%	31%	33%
At or above basic	68%	69%	73%	69%	67%
Below proficient	66%	65%	62%	61%	64%
At or above proficient	34%	35%	38%	39%	36%

Source: Kids Count https://datacenter.kidscount.org/data/tables/5116-fourth-grade-reading-achievement-levels?loc=35&loct=2#detailed/2/35/false/1729,871,573,36,867/1185,1186,1187,1188/11560

Discipline in Schools

Table 16. North Carolina Grade 9-13 Short-Term Suspension - Public Schools and Charters, 2018-2019

Geographical Unit	Grades 9-13	# Short-Term Suspensions	Short-Term Suspension Rate (per 1000 students)
State	452,073	67,952	150.31

Source: North Carolina Department of Public Instruction
https://www.dpi.nc.gov/data-reports/dropout-and-discipline-data/discipline-alp-and-dropout-annual-reports

Table 17. Ableism/Difficulty - North Carolina, 2018

With a vision difficulty	2.5%
With a cognitive difficulty	5.2%
With a hearing difficulty	3.8%
With an ambulatory difficulty	7.3%
With a self-care difficulty	2.7%
With an independent living difficulty	5.9%

Source: US Census Bureau, ACS, 1-yer estimates, disability characteristic percentages for total estimated population.
https://data.census.gov/cedsci/table?q=ableism%2Fdifficulty&g=0400000US37&tid=ACSDT1Y2019.B18102

Table 18. Foreign-Born versus Native-Born North Carolina, 2018

Total population	10,383,620
Total population (Native-Born)	9,559,443
Total population (Foreign-Born)	824,177

Source: US Census Bureau ACS, 2018 https://data.census.gov/cedsci/table?q=Native%20born&g=0400000US37&y=2018&tid=ACSST1Y2018.S0501&hidePreview=false

Table 19. Access to Computers and Broadband Internet - North Carolina, 2018

TYPES OF COMPUTERS	
Total households	4,011,462
Has one or more types of computing devices	3,652,206
Desktop or laptop computer	3,052,488
Desktop or laptop with no other type of computing device	168,489
Smartphone	3,355,182
Smartphone with no other type of computing device	381,918
Tablet or other portable wireless computer	2,444,242
Other computer	101,548
No computer	359,256

TYPE OF INTERNET SUBSCRIPTIONS	
With an internet subscription	3,358,667
Dial-up with no other type of Internet subscription	9,266
Broadband of any type	3,649,401
Cellular data plan	2,926,491
Cellular data plan with no other type of Internet subscription	431,232
Satellite Internet service	273,249
Without an internet subscription	652,795

Source: US Census Bureau ACS, 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=ACSST1Y2018.S2801&g=0100000US_0400000US37&tid=ACSST1Y2018.S2801&hidePreview=true

ECONOMIC FACTORS

Income

Table 20. Income in the Past 12 Months (In 2018 Inflation-adjusted Dollars) – North Carolina, 2018

		Households	Families	Married Family Households	Nonfamily Households
Median Income (dollars)	North Carolina	$53,855	$67,816	$82,351	$33,347
	United States	$61,937	$76,401	$91,348	$37,004

Source: US Census Bureau ACS 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=median%20income&g=0100000US_0400000US37&tid=ACSST1Y2018.S1901&hidePreview=false

Employment

Table 21. Employment and Labor Force Status - North Carolina, 2018

		Labor Force Participation Rate	Unemployment Rate
Population 16 years and over		62.4%	5.0%
Gender	Male	81.9%	4.2%
	Female	72.4%	4.8%
Race / Ethnicity	American Indian/ Alaskan Native	53.3%	6.9%
	Black	62.8%	7.8%
	Hispanic	72.8%	5.6%
	White	61.8%	4.0%
	Asian alone	67.7%	3.3%
	Two or more races	67.0%	8.2%
Poverty Status in the last 12 months	Below poverty level	48.4%	18.2%
	At or above the poverty level	82.5%	3.3%

Source: US Census Bureau ACS 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=Employment%20and%20Labor%20Force%20Status&g=0400000US37&tid=ACSST1Y2018.S2301&hidePreview=true

Table 22. Military in North Carolina, 2019	
Armed Forces	**94,310**

Source: 2019: ACS 5-year estimate https://data.census.gov/cedsci/table?g=0400000US37&tid=ACSDP5Y2019.DP03

Table 23. Veteran Status in North Carolina, 2019	
Period of Service	
Gulf War (9/2001 or later) veterans	**145,221**
Gulf War (8/1990 to 8/2001) veterans	**158,495**
Vietnam era veterans	**227,028**
Korean War veterans	**44,234**
World War II veterans	**16,191**

Source: 2019: ACS 5-year estimate https://data.census.gov/cedsci/table?q=Veteran%20status&g=0400000US37&tid=ACSST5Y2019.S2101&hidePreview=false

Occupation

Table 24. Occupation by Sex for the Civilian Employed Population 16 years and over – North Carolina, 2018

	Percent Male	Percent Female
Civilian employed population 16 years and over	51.5%	48.5%
Management, business, and financial occupations	45.0%	55.0%
Computer, engineering, and science occupations	71.1%	28.3%
Education, legal, community service, arts, and media occupations	31.1%	68.9%
Healthcare practitioners and technical occupations	22.2%	77.8%
Protective service occupations	76.3%	23.7%
Sales and office occupations	37.1%	62.9%
Natural resources, construction, and maintenance occupations	95.0%	5.0%
Production, transportation, and material moving occupations	72.6%	27.4%

Source: US Census Bureau ACS 1-Year Estimates, 2018 https://data.census.gov/cedsci/table?q=Occupation&g=0400000US37&tid=ACSST1Y2018.S2401&hidePreview=false

Industry

Table 25. Industry by Sex for the Civilian Employed Population 16 years and over – North Carolina, 2018

	Percent Male	Percent Female
Civilian employed population 16 years and over	51.5%	48.5%
Agriculture, forestry, fishing, and hunting	79.9%	20.1%
Transportation and warehousing and utilities	76.5%	23.5%
Finance and insurance, real estate, rental, and leasing	47.6%	52.4%
Professional, scientific, management, administrative, and waste management services	56.9%	43.1%
Educational services, health care and social assistance	23.3%	76.7%
Arts, entertainment, recreation, accommodation and food services	44.8%	55.2%
Public administration	57.8%	42.2%

Source: US Census Bureau ACS 1-Year Estimates, 2018 https://data.census.gov/cedsci/table?q=Industry&g=0400000US37&tid=ACSST1Y2018.S2403&hidePreview=false

Federal Poverty Level

Table 26. Poverty Status in the Past 12 Months – North Carolina, 2018

		Percent below poverty level
Gender	Male	12.7%
	Female	15.3%
Race / Ethnicity	American Indian/ Alaskan Native	20.1%
	Black	21.1%
	Hispanic	24.8%
	White	11.1%
	Asian alone	12.8%
	Two or more races	19.5%

Source: US Census Bureau ACS 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=percent%20below%20federal%20poverty%20level&g=0400000US37&tid=ACSST1Y2018.S1701&hidePreview=false

PHYSICAL ENVIRONMENT IMPACTING HEALTH

Air Quality

According to the 2019 American Lung Association State of the Air Report, North Carolina has two cities which are recognized for cleaner air quality. Wilmington, NC is one of only six cities in the United States ranked as cleanest for ozone, year-round particle pollution and short-term particle pollution. The city had zero high ozone or high particle pollution days and was among the 25 cities with the lowest year-round particle levels. Fayetteville-Sanford-Lumberton area ranked among those cities in the United States with no days at the unhealthy level ozone or for short term particle pollution.

Other NC metropolitan areas/counties recognized for no monitored ozone pollution in unhealthy ranges include:

- Greenville-Kinston-Washington, NC
- Hickory-Lenoir-Morganton, NC
- New Bern-Morehead City, NC
- Rocky Mount-Wilson-Roanoke Rapids, NC

NC Counties recognized for no days when short-term particle levels reached the unhealthful range were:

- Cumberland
- Davidson
- Mecklenburg
- Montgomery
- New Hanover
- Pitt

NC had no counties or metropolitan areas putting people at the greatest risk for short-term particle pollution, ozone, and year-round particle pollution.

Source: American Lung Association State of the Air Report, 2019.

Water Quality

Healthy North Carolina 2020 included an objective to increase the percentage of the population being served by community water systems (CWS) with no maximum contaminant level violations (among people on CWS). The North Carolina target of 95% was met in 2016 (96.3%). The baseline was 92.2 % in 2009. Drinking water will always be a priority for public health. Drinking water can never be a product with zero risk.

BUILT ENVIRONMENT: HOUSING AND TRANSIT

Occupancy and Structure

Table 27. Occupancy and Structure - Selected Housing Characteristics - North Carolina, 2018

Total housing units	*4,684,962*	Percent
	Occupied housing units	85.6%
	Vacant housing units	14.4%
	Homeowner vacancy rate	1.6%
	Rental vacancy rate	7.0%
	1-unit, detached	64.9%
	1 unit, attached	4.3%
	3 or 4 units	2.6%
	20 or more units	4.9%
	Mobile home	12.6%
Housing Tenure	Owner-occupied	65.1%
	Renter-occupied	34.9%
Average household size of owner-occupied unit	*2.6*	
Average household size of renter-occupied unit	*2.4*	

Source: US Census Bureau ACS 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=housing%20occupancy%20and%20structure&g=0400000US37&tid=ACSDP1Y2018.DP04&hidePreview=false

Value and Costs

Table 28. Housing Value and Costs – North Carolina, 2018	
Owner-occupied housing units	*4,684,962*
Value	Percent
Less than $50,000	7.5%
$50,000-$99,999	14.8%
$100,000-$149,000	16.6%
$150,000-$199,000	16.8%
$200,000-$299,999	20.0%
$300,000-$499,999	16.7%
$500,000-$999,999	6.5%
$1,000,000 or more	1.2%

Source: US Census Bureau ACS 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=housing%20occupancy%20and%20structure&g=0400000US37&tid=ACSDP1Y2018.DP04&hidePreview=false

Table 29. Gross Rent – North Carolina, 2018	
Occupied units paying rent	*1,310,250*
	Percent
Less than $500	10.6%
$500-$999	49.4%
$1000-$1,499	29.9%
$1500-$1,999	7.4%
$2,000-$2,499	1.7%
$2,500-$2,999	0.5%
$3,000 or more	0.5%
Median (dollars)	*$900*

Source: US Census Bureau ACS 1-Year Estimates, 2018
https://data.census.gov/cedsci/table?q=housing%20occupancy%20and%20structure&g=0400000US37&tid=ACSDP1Y2018.DP04&hidePreview=false

Commuting to Work

Table 30. Commuting Characteristics - North Carolina, 2018

Occupied units paying rent	Total Percentage (%) working population
Means of Transportation to Work	
Car, truck, or van	90.0%
Drove alone	80.6%
Carpooled (In 2-person carpool)	7.2%
Public transportation (excluding taxicab)	1.0%
Walked	1.8%
Bicycle	0.2%
Taxicab, motorcycle, or other means	1.1%
Worked at home	6.0%
Mean travel time to work (minutes)	24.8

Source: US Census Bureau ACS 1-Year Estimates, 2018 https://data.census.gov/cedsci/table?q=commuting%20to%20work&g=0400000US37&tid=ACSST1Y2018.S0801&hidePreview=false

CLINICAL CARE FACTORS IMPACTING HEALTH

ACCESS TO CLINICAL CARE

Primary Care Health Professionals

Table 31. Primary Care Physicians – North Carolina, 2014-2019

Number of active primary care physicians per 100,000 population *	2014	2015	2016	2017	2018	2019
NC	117.9	119.7	128.3	130.9	132.5	134.4
US	123.5	127.4	145.3	149.7	156.7	159.6

*Including general practice, family practice, obstetrics and gynecology, pediatrics, geriatrics, and internal medicine

Source: American Medical Association - Special data request for information on active state licensed physicians provided by Redi-Data, Inc., Sept. 23, 2019; U.S. Census Bureau Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018. https://www.americashealthrankings.org/explore/annual/measure/PCP/state/NC

Primary Care Health Professionals

Table 32. Primary Care Health Professionals – North Carolina, 2014-2019

	2014	2015	2016	2017	2018	2019
Physicians *Rate per 10,000 Population*	6.97	6.96	6.95	6.97	7.01	7.06
	TOTAL 6,942	*6,996*	*7,060*	*7,164*	*7,287*	*7,420*
Physician Assistants *Rate per 10,000 Population*	1.36	1.41	1.50	1.59	1.87	1.95
	TOTAL 1,351	*1,419*	*1,522*	*1,637*	*1,938*	*2,044*
Nurse Practitioners* (across all specialties) *Rate per 10,000 Population*	5.4	5.93	6.52	7.07	7.62	8.27
	TOTAL 5,372	*5,966*	*6,620*	*7,261*	*7,918*	*8,689*

* =Typical estimates of the NP workforce providing primary care are 50-80% of the total workforce.

Source: North Carolina Health Professions Data System, Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. https://nchealthworkforce.unc.edu/interactive/supply/

Dental

Table 33. Dentists Practicing in United States and North Carolina, 2014-2019

Number of practicing dentists per 100,000 population	2014	2015	2016	2017	2018	2019
NC	47.9	47.9	50.2	51.2	51.4	52.2
US	60.1	60.5	60.9	60.8	60.9	61.0

Source: American Dental Association https://www.americashealthrankings.org/explore/annual/measure/dentists/state/NC

Table 34. Children, Age 1-17 years, Who Have Received Preventative Dental Care in the Past Year in North Carolina, 2016-2018

North Carolina	2016 - 2017	2017 - 2018
Number	1,744,619	1,724,604
Percent	79%	79%

Source: National KIDS COUNT https://datacenter.kidscount.org/data#USA/1/27/28,29,30,31,32,34,33/char/0

Table 35. During the past 12 months, did this child see a dentist or other oral health care provider for any kind of dental or oral health care, age 1-17 years? North Carolina, 2017-2018

	Saw a dentist or other oral health care provider	Saw other oral health care provider	No dental or oral health care visits
Total Percent 100%	80.5	1.7	17.8
C.I.	76.2 - 84.2	0.8 - 3.6	14.3 - 22.0
Sample Count	850	17	144
Pop. Est.	1,750,956	36,663	387,934

Source: 2017-2018 National Survey of Children's Health - North Carolina https://www.childhealthdata.org/learn-about-the-nsch/NSCH

Health Insurance

Table 36. Children 9 Years Old Without Health Insurance - North Carolina, 2014-2018

North Carolina	Number	Percent	90% Confidence Interval
2014	134,000	5.5%	5.2 - 5.8
2015	113,000	4.6%	4.3 - 4.9
2016	115,000	4.7%	4.4 - 5.0
2017	119,000	4.8%	4.5 - 5.1
2018	130,000	5.3%	5.0 - 5.7

Source: Population Reference Bureau, analysis of data from the U.S. Census Bureau, 2014-2018 American Community Survey as found on the Kids Count Data Center website (http://datacenter.kidscount.org/) https://schs.dph.ncdhhs.gov/data/mch/

HEALTH BEHAVIORS IMPACTING HEALTH

TOBACCO PRODUCTS AND E-CIGARETTES

Tobacco Use

Table 37. 2018 BRFSS Survey Results: North Carolina - Tobacco Use

	Total Respondents	No Use		Use at least 1 Product	
Total	3,919	3,055	76.2%	864	23.8%
Male	1,763	1,287	70.1%	476	29.9%
Female	2,156	1,768	81.5%	388	18.5%
Race/Ethnicity					
Non-Hispanic White	2,567	1,976	74.1%	591	25.9%
Non- Hispanic Black	769	600	77.5%	169	22.5%
Non-Hispanic American Indian	85	***	***	***	***
Non-Hispanic Other	128	101	82.9%	27	17.1%
Hispanic	314	279	87.8%	35	12.2%
Age					
18-34	688	485	69.4%	203	30.6%
35-44	504	364	72.6%	140	27.4%
45-54	664	486	72.2%	178	27.8%
55-64	734	578	80.8%	156	19.2%
65-74	772	634	81.1%	138	18.9%,
75+	485	443	88.8%	42	11.2%

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/AnyTobUse.html

E-Cigarettes

Table 38. 2018 BRFSS Survey Results: North Carolina - E-Cigarettes

	Total Respondents	Never Used		No Longer Use		Use Some Days		Use Every Day	
Total	3,779	3,030	77.4%	594	17.5%	92	2.8%	63	2.3%
Male	1,695	1,311	74.8%	290	18.7%	56	3.9%	38	2.6%
Female	2,084	1,719	79.6%	304	16.5%	36	1.9%	25	2.0%
Race/Ethnicity									
Non-Hispanic White	2,497	1,956	75.1%	419	18.5%	67	3.3%	55	3.2%
Non- Hispanic Black	731	610	80.3%	104	17.3%	14	1.9%	***	***
Non-Hispanic American Indian	82	***	***	***	***	***	***	***	***
Non-Hispanic Other	121	92	83.3%	25	13.8%	***	***	***	***
Hispanic	301	267	86.1%	25	10.6%	***	***	***	***
Age									
18-34	665	404	60.0%	195	29.6%	38	5.7%	28	4.7%
35-44	487	359	74.4%	95	18.4%	20	3.5%	13	3.7%
45-54	643	501	77.3%	118	17.9%	18	3.6%	***	***
55-64	707	589	84.7%	99	13.4%	***	***	***	***
65-74	757	680	89.7%	64	9.0%	***	***	***	***
75+	461	446	96.2%	15	3.8%	***	***	***	***

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics *https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/ECIGUSE.html*

SUBSTANCE USE

Alcohol Consumption

Table 39. 2018 BRFSS Survey Results: North Carolina - Heavy Drinking

	Total Respondents	NO		Yes	
Total	4,354	4,097	93.5%	257	6.5%
Male	2,001	1,865	92.0%	136	8.0%
Female	2,353	2,232	94.9%	121	5.1%
Race/Ethnicity					
Non-Hispanic White	2,960	2,763	92.8%	197	7.2
Non- Hispanic Black	802	773	95.5%	29	4.5
Non-Hispanic American Indian	81	79	98.5%	***	***
Non-Hispanic Other	152	144	93.6%	***	***
Hispanic	301	284	94.0%	17	6.0
Age					
18-34	919	840	91.8%	79	8.2%
35-44	554	511	92.4%	43	7.6%
45-54	700	650	92.3%	50	7.7%
55-64	775	742	95.5%	33	4.5%
65-74	815	778	95.3%	37	4.7%
75+	518	505	96.6%	13	3.4%

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/_RFDRHV6.html

Injection Drug Use

Do your know anyone who injects drugs that have not been prescribed for them by a doctor?

Table 40. 2018 BRFSS Survey Results: North Carolina - Injection Drug Use

	Total Respondents	Yes		No	
Total	3,561	346	10.5%	3,215	89.5%
Male	1,600	170	11.4%	1,430	88.6%
Female	1,961	176	9.8%	1,785	90.2%
Race/Ethnicity					
Non-Hispanic White	2,374	262	12.4%	2,112	87.6%
Non- Hispanic Black	679	52	8.2%	627	91.8%
Non-Hispanic American Indian	75	***	***	***	***
Non-Hispanic Other	116	***	***	110	97.1%
Hispanic	275	12	3.8%	263	96.2%
Age					
18-34	617	91	17.0%	526	83.0%
35-44	441	45	9.2%	396	90.8%
45-54	620	60	8.1%	560	91.9%
55-64	680	68	8.9%	612	91.1%
65-74	713	54	8.4%	659	91.6%
75+	441	25	7.2%	416	92.8%

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/nc16q01.html

SEXUAL HEALTH

"I am going to read you a list. When I am done, please tell me if any of the situations apply to you. You do not need to tell me which one.

1. ***You have used intravenous drugs in the past year.***
2. ***You have been treated for a sexually transmitted or venereal disease in the past year.***
3. ***You have given or received money or drugs in exchange for sex in the past year.***
4. ***You had anal sex without a condom in the past year.***
5. ***You had four or more sex partners in the past year."***

HIV/AIDS Risk

Table 41. 2018 BRFSS Survey Results: North Carolina - At Risk for HIV

	Total Respondents	NO		Yes	
Total	4,440	235	6.4%	4,205	93.6%
Male	2,050	131	7.5%	1,919	92.5%
Female	2,390	104	5.4%	2,286	94.6%
Race/Ethnicity					
Non-Hispanic White	2,990	155	6.3%	2,835	93.7%
Non- Hispanic Black	813	42	6.0%	771	94.0%
Non-Hispanic American Indian	86	***	***	82	94.3%
Non-Hispanic Other	148	13	8.8%	135	91.2%
Hispanic	351	14	4.9%	337	95.1%
Age					
18-34	934	133	15.0%	801	85.0%
35-44	583	41	5.6%	542	94.4%
45-54	725	32	3.8%	693	96.2%
55-64	791	18	2.0%	773	98.0%
65-74	831	***	***	824	98.6%
75+	510	***	***	508	99.7%

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/hivrisk5.html

INJURY

Homicide Injury Deaths

Table 42. North Carolina Homicide Injury Deaths and Rates per 100,000, 2015-2019

	Number of Deaths	Population	Crude Rate	Age-Adjusted Rate
Males	2,667	24,977,540	10.7	10.9
Females	694	26,357,173	2.6	2.7
Race				
White	1,148	36,593,180	3.1	3.2
Black	2,071	11,815,680	17.5	17.4
American Indian/ Alaskan Native	108	850,565	12.6	12.6
Hispanic	188	4,844,430	3.9	3.8
Asian/Pacific Islander	34	1,722,221	2.0	2.0

Source: CDC, National Center for Health Statistics. Multiple Cause of Death, 1999-2019 on CDC Wonder Online Database.

BEHAVIORAL HEALTH

Frequent Mental Distress

Table 43. 2018 BRFSS Survey Results: North Carolina - Healthy Days Frequent Mental Distress

	Total Respondents	Yes		NO	
Total	4,662	581	12.3%	4,081	87.7
Male	2,176	235	9.6%	1,941	90.4
Female	2,486	346	14.8%	2,140	85.2
Race/Ethnicity					
Non-Hispanic White	3,108	387	12.3%	2,721	87.7%
Non- Hispanic Black	866	114	12.6%	752	87.4%
Non-Hispanic American Indian	93	14	11.1%	79	88.9%
Non-Hispanic Other	57	21	12.9%	136	87.1%
Hispanic	377	34	10.2%	343	89.8%
Age					
18-34	1,002	145	15.3%	857	84.7%
35-44	615	89	13.4%	526	86.6%
45-54	760	119	14.7%	641	85.3%
55-64	822	109	11.4%	713	88.6%
65-74	855	88	8.6%	767	91.4%
75+	524	26	3.9%	498	96.1%

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/FMD.html

PHYSICAL ACTIVITY

Exercise

Table 44. 2018 BRFSS Survey Results: North Carolina - Exercise

	Total Respondents	Yes		NO	
Total	4,724	3,542	76.1%	1,182	23.9%
Male	2,200	1,715	79.5%	485	20.5%
Female	2,524	1,827	72.9%	697	27.1%
Race/Ethnicity					
Non-Hispanic White	3,144	2,427	77.6%	717	22.4%
Non- Hispanic Black	879	627	73.7%	252	26.3%
Non-Hispanic American Indian	93	***	***	***	***
Non-Hispanic Other	163	132	82.5%	31	17.5%
Hispanic	381	251	69.4%	130	30.6%
Age					
18-34	1,008	838	82.5%	170	17.5%
35-44	619	480	77.6%	139	22.4%
45-54	769	574	74.8%	195	25.2%
55-64	832	597	73.9%	235	26.1%
65-74	864	623	69.7%	241	30.3%
75+	545	368	66.2%	177	33.8%

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/_RFDRHV6.html

NUTRITION

Adults Who are Overweight or Obese

Table 45. 2018 BRFSS Survey Results: North Carolina – Adults with Body Mass Index > 25.00

	Total Respondents	NO		Yes	
Total	4,292	1,345	32%	2,947	68%
Male	2,074	569	28.4%	1,505	71.6%
Female	2,218	776	35.5%	1,442	64.5%
Race/Ethnicity					
Non-Hispanic White	2,942	998	34.0%	1,944	66.0%
Non- Hispanic Black	796	176	23.9%	620	76.1%
Non-Hispanic American Indian	82	***	***	***	***
Non-Hispanic Other	145	60	46.9%	85	53.1%
Hispanic	286	74	28.6%	212	71.4%
Age					
18-34	891	402	46.1%	489	53.9%
35-44	551	141	24.9%	410	75.1%
45-54	707	156	21.3%	551	78.7%
55-64	768	204	25.3%	564	74.7%
65-74	815	227	24.8%	588	75.2%
75+	513	200	42.8%	313	57.2%

*** The estimate was suppressed because it did not meet statistical reliability standards.

Source: State Center for Health Statistics https://schs.dph.ncdhhs.gov/data/brfss/2018/nc/all/rf2.html

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GLOSSARY OF ACRONYMS

BRFSS - Behavioral Risk Factor Surveillance System

CDC – Centers for Disease Control and Prevention

CHA – Community Health Assessment

CI Scorecard – Clear Impact ScorecardTM

DPH – Division of Public Health

FHLI – Foundation for Health Leadership and Innovation

HIV – Human Immunodeficiency Virus

HNC – Healthy North Carolina

LEA – Local Education Agency

LGBTQ – lesbian, gay, bisexual, transgender, and queer

NC AHEC – North Carolina Area Health Education Centers

NC ALHD – North Carolina Association of Local Health Directors

NC DHHS – North Carolina Department of Health and Human Services

NC DPI – North Carolina Department of Public Instruction

NC SHA – North Carolina State Health Assessment

NC SHIP – North Carolina State Health Improvement Plan

NCIOM – North Carolina Institute of Medicine

PA – physician assistant

STI – sexually transmitted infection

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PUBLIC COMMENT AND *HNC 2030* DATA WALKS

Public Comment was solicited from a series of scheduled "Data Walks" in 2020. Unfortunately, the pandemic limited these walks to two venues:

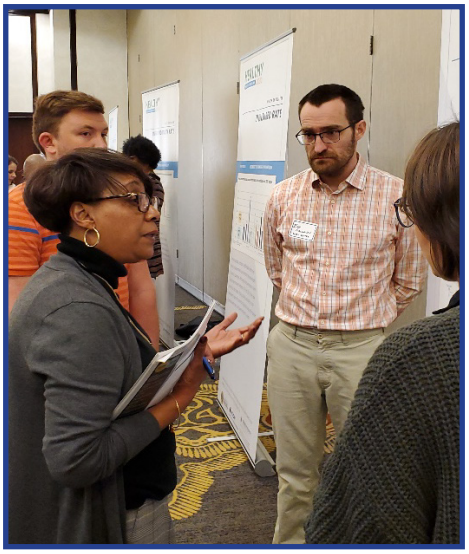
- NC Public Health Leaders Conference, January 24-26, 2020, Raleigh, NC.
- Eastern AHEC Rural Symposium, February 27-27, 2020, Greenville, NC.

Shown in these pictures are snapshots of the HNC 2030 indicators being discussed with the public at two conferences.

Comments received were incorporated into planning for the *2020 NC State Health Improvement Plan*.

The 2019 State Health Assessment and Healthy North Carolina 2030 are posted on the NC Division of Public Health website.
https://schs.dph.ncdhhs.gov/units/ldas/hnc.htm

APPENDIX C




HEALTHY
SUGAR-SWEETENED
BEVERAGE CONSUMPTION


EASTERN
AHEC


EXIT
UNEMPLOYMENT RATE
HEALTHY
HIV DIAGNOSIS RATE